

Atrazine bioaccumulation and biotransformation in cattail (*Typha latifolia*) over the exposure time

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Atrazine (ATZ) in the environment

- Weed control herbicide used primarily with GM corn
- Ubiquitous in water supplies worldwide

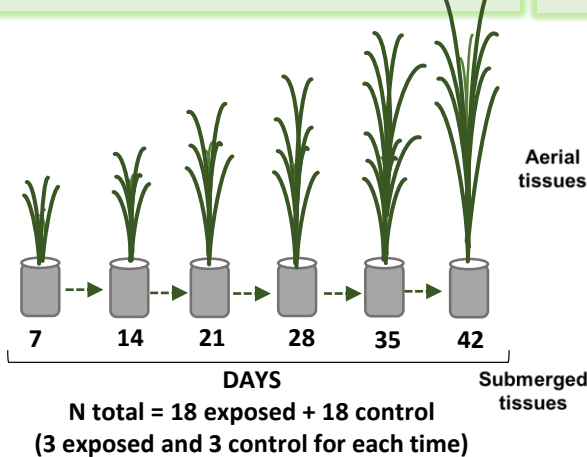
Typha latifolia

- Major role in structuring aquatic ecosystems
- Potential to bioaccumulate and biodegrade pesticides.

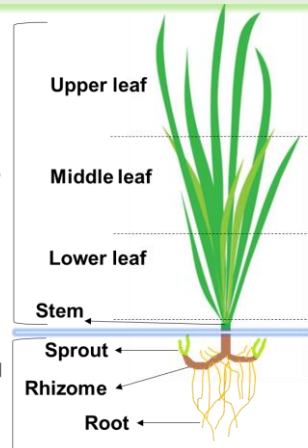
Research goals

Determine ATZ bioaccumulation and biodegradation in tissues over time, Evaluate the phytoremediation potential of *Typha*

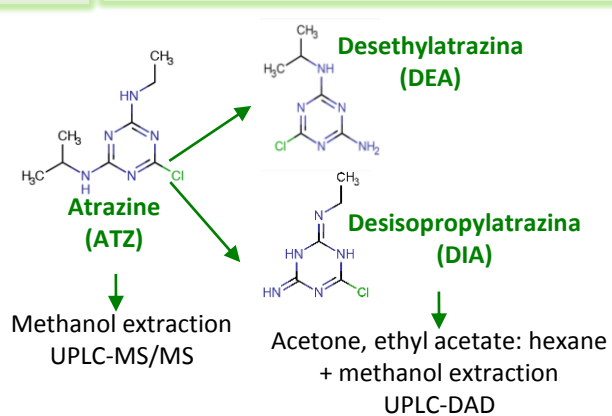
Semi-static bioassay (ATZ 20 µg/L)



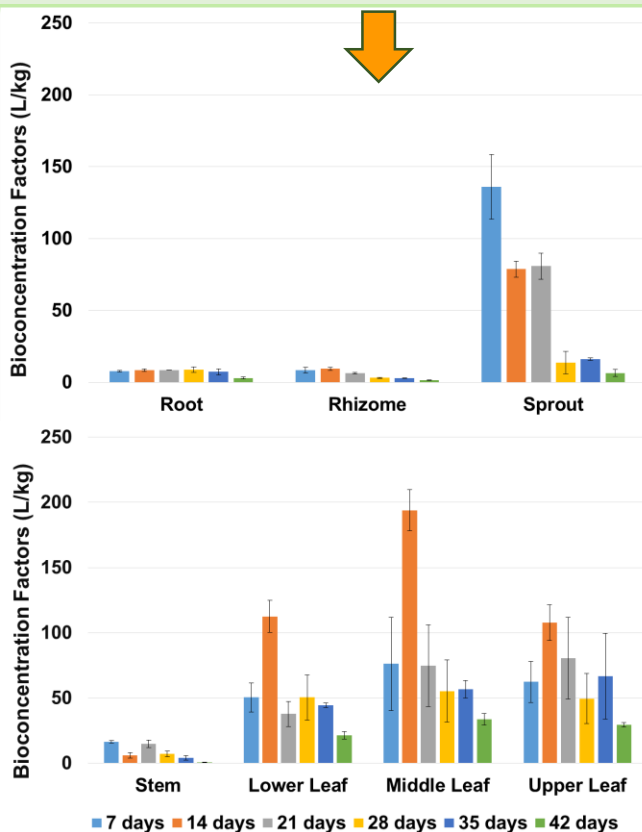
Analyzed tissues



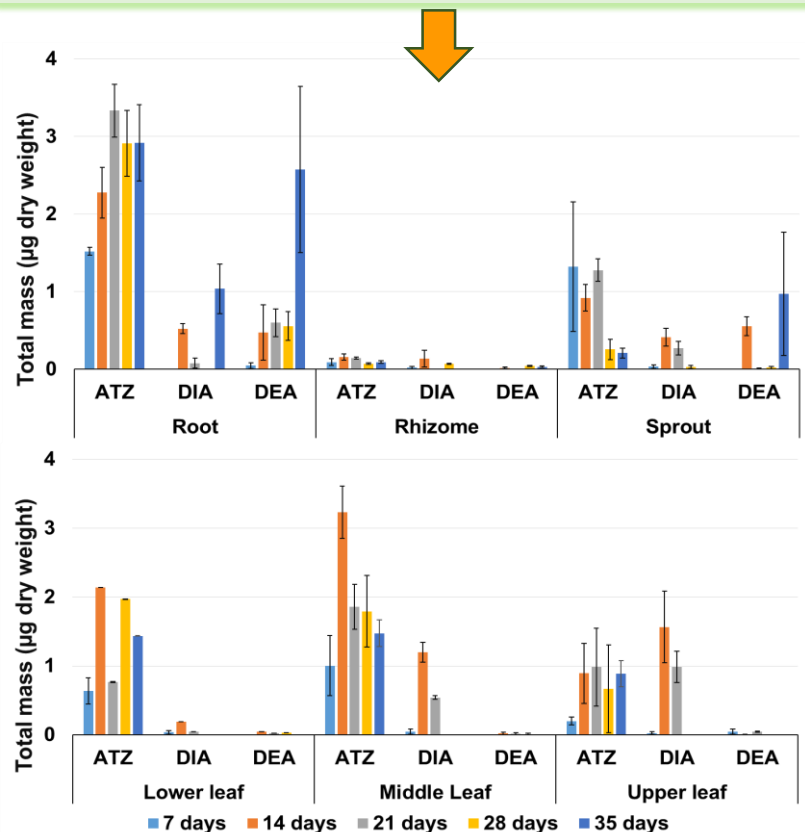
Analytical methodology



ATZ Bioaccumulation Factors (L/kg)



ATZ, DEA and DIA Total Mass (µg)



✓ ATZ bioaccumulation pattern
Leaf > Sprout > Stem > Root > Rhizome

✓ Roots and sprouts: DEA was the main metabolite
✓ Leaves: DIA was the main metabolite

ATZ was taken up by *Typha latifolia* roots and transferred to shoots, mainly to leaves. Biodegradation of ATZ probably by different metabolic pathways, suggests *T. latifolia* could remove ATZ from aqueous environments (e.g. phytoremediation).